

Application Serial No.: 09/802,275
Amendment dated: October 17, 2005
Reply to Office Action mailed: May 17, 2005

REMARKS

Claims 41-83 are pending with the entry of this amendment.

Consideration and allowance of new Claims 79-83 is solicited. No new matter has been added.

The 102 Rejection:

The Office improperly rejected Claims 41-45, 47-48, 50-51, 54-58, 61-62, 67-69 and 71-78 as being anticipated by Swift (U.S. Patent No. 5,207,504).

Regarding Claims 41 and 56,

Claim 41 recites, *inter alia* :

at least one of said optical components being a light permeable component having a medium with a first index of refraction and having a boundary surface with a medium of a second index of refraction different from the first, said light permeable component being part of a light output device and said boundary surface being provided with a light-refractive structure for deflecting light in at least one plane directed perpendicular to a light exit face

Claim 56 recites, *inter alia* :

at least one of said optical components being a light permeable element having a medium with a first index of refraction and having a boundary surface with a medium of a second index of refraction different from the first, said light permeable element being received on the light permeable plate of a light output device of the unit, and said boundary surface being provided with a light-refractive structure for deflecting light in at least one plane directed perpendicular to a light exit face of the output device

The Office's reliance on the translucent screen 78 in Swift as disclosing one of the optical components is misplaced. As noted above, both Claim 41 and Claim 56 require a boundary surface with a light-refractive structure for deflecting light directed perpendicular to the light exit face. There is no disclosure or suggestion in Swift that the translucent screen 78 includes such structures. Therefore the rejection fails and must be withdrawn.

Similarly the rejections of Claims 42-45, 47-48, 50-51, 54, 55, 57, 58, 61-62, which depend from Claims 41 and 56 also fail, irrespective of the additional patentable features recited therein, and must be withdrawn.

Regarding Claims 67, 68, 72 and 74, and 76-78 as amended, each claim recites, *inter alia*:

a lamp located outside said cavity or at the lateral periphery thereof for directing light into said cavity

Swift discloses that the lamps are within the cavity of the light guide and directly above the louver (elements 38, 79, and 88) which forms the outermost component of the light exit face as shown in Figures 1-4 and 8. There is simply no teaching in Swift for locating the lamps outside the cavity or at the lateral periphery thereof. In fact, Swift teaches away from such disclosure as the reflective louvers were not provide the desired effect if the light source was positioned as claimed. The rejections must be withdrawn.

Regarding Claim 69, the Office's assertion that the louver 79 meets the limitation of the carrier plate is misplaced. The Applicant submits the louver 79 of Swift cannot meet the element of a smooth plate as recited in the claim. Webster's dictionary defines the term "smooth" as "free from irregularities" and "even and uninterrupted" which is consistent with the use of the term in the present disclosure. The Office's assertion that the louver 79 is "smooth" is inconsistent with the definition and use of the term in the disclosure. Notwithstanding the Office's error, Applicant has amended Claim 69 to make clear that the carrier plate has a generally smooth and uninterrupted surface. The rejection must be withdrawn.

The Office Action incorrectly rejected Claims 63-65 and being anticipated by Zou.

Regarding Claim 63, Zou discloses (Col. 5, 1.16 et seq.) that the back, the light output side, and side 54 may be unitarily formed or, alternatively, these components may be separately fabricated and fastened together to form the hollow light guide.

In addition Zou discloses (Col. 7, 11.40-43) that the first LDA may rest freely within the light channel or it may be secured by a channel or groove or by other known fastening or affixation means. However there is no disclosure of the steps of arranging a prefabricated light permeable component on a carrier plate and fastening that component on said carrier plate so that they limit the cavity of the hollow light guide with the carrier plate forming the outmost element of the light output device. There is also no embodiment where the light output face 56 is a separate element and the only disclosure of the specific fastening means for plate 70 is a groove in the sidewalls, which is not a disclosure for attaching the LDA to the carrier plate as required in the method claim.

Therefore, Zou does not anticipate Claim 63 and the rejection must be withdrawn. Likewise as Claims 64 and 65 depend from Claim 63, their rejections by Zou must also be withdrawn irrespective of the additional patentable features recited therein.

The 103 Rejections:

The Office Action improperly rejected Claims 46 and 53 as being obvious over the combination of Swift and Zou.

The Office has provided no motivation from either references to combine the references as required and appears to have ignored the differences in Swift and Zou which preclude them from being combined. Swift discloses a luminaire wherein the lamp is located within the cavity formed by the light guide and directly above the light exit

face of the unit formed by a louver. The louver reflects incident light at angles greater than a predetermined angle.

By contrast, Zou discloses a luminaire having the lamps positioned at the sides of the light guide. There is no motivation to combine the teachings of Swift and Zou because positioning the lamps on the sides of the light guide would render the luminaire of Swift inoperative. The lamp must be above the louvers for the luminaire of Swift to operate as disclosed.

The concept of Zou is to cut off light above a certain angle C by way of a refractive structure and thereby restrict the angular region into which light is emitted. However, this does not imply a concentration of light in that a better use is made of electrical and light energy. Those light portions that do not lead to an exit angle of less than C will not be transmitted by the light refractive structure and reflected back into the light guide (Zou Col. 6, ll.5-21). Such light will be reflected again in the hollow light guide at least one, but generally multiple times, before it impinges again on the refractive structure. It is well-known that multiple reflections lead to a significant loss of light and are generally to be avoided. However, in order to reduce the light units depth, Zou accepts this trade-off. The citation of Col. 6, ll. 20-25 by the Office, relates to specifics of luminaires with a closed hollow light guide, more specifically to the problem that one has with a light exit formed by a plate that is structured such that only a part of the light

impinging thereon is transmitted. This is, however without relevance to the luminaires of Swift, where the angular range of the light emitted by luminaires is not controlled by refraction. With the louver, as disclosed in Swift, light that does not directly exit the light unit, because its angle of incident is greater than a cut-off angle of the louver, will be reflected at the walls of the apertures of the louver and not be reflected back into the space above the louver. Moreover, such louvers are usually designed such that there will be no multiple reflections at the walls of the apertures but rather designed such that light will be emitted to leave the light unit after a single reflection at a wall of an aperture.

Additionally a combination of Swift with the refractive structure of Zou would not lead to a uniform light distribution. Rather, with the construction of Swift, the lamps are above the light exit face, they would have rather bright spots directly under the lamps and rather dark regions on the side, since most of the light would have an angle less the cutoff angle.

Therefore there can be no applicable teaching or motivation to use the refractive structure in the light unit of Swift. The problems of exiting light at high angles that Zou seeks to solve is not a problem of Swift. The reuse of reflected light back into the light guide is less efficient than the louver system of Swift and louver of Swift already deals with the light exiting at high angles, and thus such a modification would be adverse to the teachings of Swift.

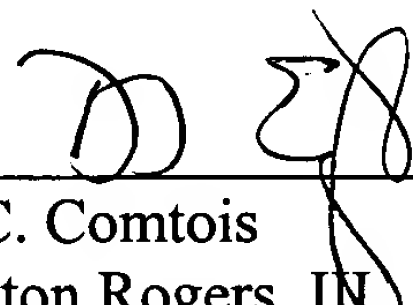
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The combination of Swift and Zou cannot render Claims 46 and 53 unpatentable, because of a lack teaching and motivation to combine the reference. The rejections must be withdrawn.

Swift and Zou alone do not show all the limitations in the current claims. Furthermore, Swift and Zou, because of disparate teachings and structures, cannot be combined to render the present claims obvious.

A further and favorable action and allowance of all claims is solicited

Respectfully submitted,



Mark C. Comtois	Reg. No. 46,285
L. Lawton Rogers, IN	Reg. No. 24,302
D. Joseph English	Reg. No. 42,514
Patrick D. McPherson	Reg. No. 46,255

DUANE MORRIS LLP
1667 K Street, N.W., Suite 700
Washington, DC 20006
Telephone: (202) 776-7800
Telecopier: (202) 776-7801

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